

**REMARKS**

Reconsideration and allowance of claims 8, 13, and 15, rejected under 35 U.S.C. 112, second paragraph, are respectfully requested. As shown in Figures 3, 4, and 5, there is a clearance that has been filled between the electrically conductive circuitry and the plated through hole. In these drawings, the electrically conductive circuitry is a power plane which should not be electrically coupled to a plated through hole when the plated through hole conducts signals rather than power.

As to the "confusion" of whether it is the *clearance* or the *plated through hole* that is filled with "said dielectric material":

- claim 8, for example, is dependent on claim 2 and claim 2 is, in turn, dependent on claim 1
- claim 1 specifies "a non-conductive layer comprising a dielectric material....."
- claim 2 specifies "a plated through hole extending through.....said non-conductive layer" which comprises the dielectric material,

so it follows that the plated through hole cannot be filled with "said dielectric material" when the plated through hole extends through "said non-conductive layer" which has "said dielectric material." When element "A" extends through element "B," element "A" is not filled with element "B."

Moreover, as the Examiner correctly points out, Applicants do not disclose, either in the drawings or in the specification, a plated through hole filled with a dielectric material. Consequently, Applicants cannot claim a printed circuit board that specifically recites a plated through hole filled with a dielectric material" which the Examiner attributes to claim 8.

Because Applicants do not claim a printed circuit board having "said plated through hole filled with said dielectric material," there is no issue of antecedent basis.

Reconsideration and allowance of claims 1 through 3, 6, and 8. "rejected under 35 U.S.C. 102(b) as being anticipated by Tsukada et al. (U.S. Patent NO. 5,451,721)," are respectfully requested. Tsukada et al. fail to teach or suggest

"a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to said substrate layer"

which is specified by claim 1. The Examiner is wrong in characterizing the "combination of Reference numerals 18, 22, 28" of Tsukada et al. as "a non-conductive layer ..... comprising a dielectric material free of continuous glass fibers." As set forth at column 3, lines 19 and 20, of Tsukada et al., reference numeral 22 applies to "a layer 22 of electrically conductive material, e.g., copper." As set forth at column 3, lines 22 through 25, "the copper layer 22 ..... is connected to the signal wiring conductors 16 of the first level by plated via holes 24."

With (a) a major component of the three part *layer* that has been formed by the Examiner being an electrically conductive material, and (b) this component is electrically connected to another component, this three part *layer* cannot be characterized as (a) non-conductive and the same as Applicants' non-conductive layer (b) that is not electrically connected to anything. One skilled in the art would not refer to the Examiner's three part *layer* as being non-conductive.

As a result, claim 1 is patentable over Tsukada et al. as are claims 2, 3, 6, and 8 that are dependent on claim 1.

Claim 6 is patentable over Tsukada et al. for the additional reason that Tsukada et al. neither teaches nor suggests that the "dielectric material is resin coated copper foil." In Tsukada et al., a photoimageable dielectric is coated onto a substrate, photoimaged, and processed resulting in a copper plating that one skilled in the art would not characterize as a resin-coated copper foil.

Reconsideration and allowance of claims 48, 10, 12 through 15, 19, and 22, "rejected under 35 U.S.C. 102(b) as being anticipated by Tsukada et al. (U.S. Patent NO. 5,451,721)," are respectfully requested. Tsukada et al. fail to teach or suggest

"a non-conductive layer comprising a dielectric material free of continuous glass fibers applied to said substrate ....."

which is specified by claim 48. The Examiner is wrong in characterizing the "combination of Reference numerals 18, 22, 28" of Tsukada et al. as "a non-conductive layer ..... comprising a dielectric material free of continuous glass fibers" for the same reasons advanced above in connection with claim 1.

As a result, claim 48 is patentable over Tsukada et al., as are claims 10, 12 through 15, 19, and 22 that are dependent on claim 48, for the same reasons advanced above in connection with claim 1.

Claim 22 is patentable over Tsukada et al. for the additional reason that Tsukada et al. neither teaches nor suggests that the "dielectric material is resin coated copper foil." As argued above, in connection with claim 6, in Tsukada et al., a photoimageable dielectric is coated onto a substrate, photoimaged, and processed resulting in a copper plating that one skilled in the art would not characterize as a resin-coated copper foil.

Reconsideration and allowance of claims 4, 5, and 37, "rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (U.S. Patent NO. 5,451,721)," are respectfully requested. Claims 4, 5, and 37 are dependent on claim 1 and, therefore, are patentable over Tsukada et al. for the same reasons advanced above in connection with claim 1.

Reconsideration and allowance of claims 20, 21, and 38, "rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (U.S. Patent NO. 5,451,721)," are respectfully requested. Claims 20, 21, and 38 are dependent on claim 48 and, therefore are patentable over Tsukada et al. for the same reasons advanced above in connection with claim 48.

Reconsideration and allowance of claims 7 and 23, "rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al. (U.S. Patent NO. 5,451,721) in view of Pellegrino (U.S. Patent NO. 4,521,262)," are respectfully requested. Claim 7 is dependent on claim 1 and claim 23 is dependent on claim 48. Therefore, claims 7 and 23 are patentable over Tsukada et al. taken alone for the same reasons advanced above in connection with claims 1 and 48 and, because Pellegrino does not make up for the deficiencies of Tsukada et al., patentable over the combination of Tsukada et al. and Pellegrino.

In view of the foregoing remarks, this application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

RatnerPrestia



Andrew L. Ney, Reg. No. 20,300/  
Attorney for Applicants

ALN/kak

Dated: February 4, 2003

Suite 301

One Westlakes, Berwyn

P.O. Box 980

Valley Forge, PA 19482-0980

(610) 407-0700

The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **09-0457 (IBM Corporation)** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on:

February 4, 2003

